



The

GARzette



The Official Newsletter of the Gwinnett Amateur Radio Society

January 2023 <http://www.gars.org/> Volume 50*, Issue 1

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www.GARS.org



GARS January Exhibition of the
Technical aspects of Amateur Radio
Held at the Gwinnett County Fairgrounds



**Don't forget to support our
advertisers at the back of the
GARzette.**

**GARS Meeting: Ham Bands Below 160m - Kevin Scott K4GTR
Tuesday January 10, 2023 at 7:00 PM**

*: The GARzette Version is set to reflect the number of years GARS has been in existence. Last year's Version was 32.

GARS Repeaters and Other Communications

<p><u>2 Meter Repeaters</u></p> <p>147.075(+) MHz Tone 82.5 147.255(+) MHz Tone 107.2</p> <p><u>1.25 Meter Repeater</u></p> <p>224.580(-) MHz Tone 100.0, 1.6 MHz Offset</p> <p><u>70 Cm Repeaters</u></p> <p>444.525(+) MHz Tone 82.5 442.100(+) MHz Tone 100 442.325(+) MHz Tone 100</p>	<p><u>6 Meter Repeater</u></p> <p>53.110 (-1 MHz) No Tone (Offline for Maintenance)</p> <p>Other Resources:</p> <p><u>APRS</u></p> <p>144.390 -- 1200 Baud W4GR</p> <p><u>D-STAR</u></p> <p>WD4STR 145.060 + (1.4 MHz) 440.550 + (5 MHz)</p>	<p>6M Currently down</p> <p>147.075 Operational in Snellville 147.255 Operational in Snellville 224.580 Operational in Grayson 442.100 Operational at Goshen Springs 442.325 Operational in Buford 444.525 Operational in Snellville</p> <p>Link remote receivers being added</p>
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Notable Web Links

Ham Radio Glossary: <https://noji.com/hamradio/glossary.php> a very comprehensive listing provided by Noji Ratzlaff KNØJL. On his site there is also a lot of information about getting started in ham radio.

Need Help – Let GARS Elmers answer your questions

Send an email to elmers@gars.org with the subject listing the area (like Antennas, Repeaters, Digital, DMR etc.) of your query to get to GARS Elmer volunteers.

The *GArzette* is the official monthly newsletter of the Gwinnett Amateur Radio Society, serving its members and other persons interested in the advancement of the Amateur Radio art.

Original articles, art, and photos are invited and encouraged. Previously copyrighted submissions cannot be accepted for reprinting unless permission from the appropriate publisher is provided in writing along with the information being submitted. If reprints are from publications allowing their unrestricted use, please include a copy of the printed permission contained in the publication.

If possible, bring your articles to the monthly meeting in Microsoft Word or rich text (.rtf) or text or HTML format or by e-mail to editor@gars.org. Artwork can be accepted in most any graphics format and can be submitted via e-mail to the same address. Alternate means of submittal can be arranged when necessary.

In keeping with the Amateur Radio spirit, permission is hereby granted for the reproduction of The *GArzette* articles by other Amateur Radio club newsletters provided that proper credit is given to the individual author and *The GArzette*.

The GArzette is published each month with the assistance of Karen KI4HPP and Kyle W4KDA who print copies for distribution at meetings, etc. and Dave Bruse, W4DTR, who distributes the newsletter electronically.

Deadline for submissions is the 28th of each month for inclusion in the following month's issue.

For additional information view our Website at: <http://www.gars.org> [PS— Articles to publish in the *GArzette*, either written by GARS members or published elsewhere, are always welcome. —Ed.]

Newsletter Email: editor@gars.org Editor: Bob Hoffmann, K4CQO

GARS HELP WANTED

Multimedia Chair - We are looking for a volunteer who can video record our meeting presentations then edit and post these videos to the GARS YouTube channel. Kyle Albritton, W4KDA, will be available to train this volunteer. If you could perform this function, please contact any officer via the Officers and committee chairmen page to inquire about this position. <https://gars.org/contact/>

GARS Meetings & Workshops

GARS Meetings and Workshops are held in-person at the EAA 690 Hangar, 690 Airport Rd, Lawrenceville, GA 30046.

Meetings and Workshops are OPEN to all, feel free to share your invite with others.

Zoom login info will be posted to <http://www.gars.org> prior to the meeting.

When events are available on Zoom

- Workshops and Meetings will be **recorded**. By participating you consent to being **recorded**.
- Please change your display name to Your **FirstName Call Sign**, e.g. **Hiram W1AW**
- [How to change Your Display Name in Zoom](#)
- Please stay muted until ready to speak. Your space bar works like a PTT for un-muting
- To be fair to everyone, there will be a three minute limit for each person during Q & A
- You may ask questions in chat; **please stay on topic while using chat**.

GARS Meetings Schedule (second Tuesday @ 7:00 PM): (these are the presentations)

- January 10, 2023 - Ham Bands Below 160m - Kevin Scott K4GTR
- February 14, 2023 - **TBD**
- March 14, 2023 – Ribbit, a new digital texting mode for VHF/UHF – Pierre Deliou W4CKX
- April 11, 2023 - Pi-Star DMR Hot Spot - Mark Prichard KN2TOD

Workshop Schedule (third Tuesday @ 7:00 PM): (these are the Hand-on Workshops)

- January 17, 2023 - Ham Bands Below 160m - Kevin Scott K4GTR
 - February 21, 2023 - **TBD**
 - March 21, 2023 – Ribbit, a new digital texting mode for VHF/UHF – Pierre Deliou W4CKX
 - April 18, 2023 - Pi-Star DMR Hot Spot - Mark Prichard KN2TOD
-

GARS Meeting – January 10, 2023

Ham Bands Below 160m by Kevin Scott, K4GTR

Have you ever used the General Coverage portion of your HF rig OUTSIDE of our ham bands (not including WWV)? More importantly, what is below 160 meters besides the AM Broadcast Band (BCB)? This is the time of year to explore our new ham bands at 630 (472-479 kHz) and 2200 (135.7-137.8 kHz) meters since the lightning strikes should be gone so you can listen more easily. Other opportunities for DXing at these frequencies below 160 include BCB DXing, NDB (non-directional beacons) using morse code IDs (good for practicing your morse skills), Long Wave (LW) Broadcasting, WWVB and other strange noises. These lower frequencies were once used by the original "wireless" operations in the early 1900s and our HF bands were considered somewhat useless at the time. Times have changed. But these frequencies have their useful characteristics and with our new modes (WSPR, FT8, etc.) you can do a lot with little power.

GARS Workshop – January 17, 2023

Ham Bands Below 160m

For the Workshop we will go over using the bands below 160m. If there is available with people bringing in their general coverage HF radios and an antenna with enough cable to go outside then we can do some listening. Also, we will be going to various websites for reference material and demonstrations.

This will be an in-person Workshop at the EAA 690 Hangar.

GARS Happenings

20 Years ago in the January 2002 GARzette:

- GARS president talks about the Special Service Club (SSC) designation and what GARS does to maintain that designation
- There was a good article about the role that GARS does to support the radio clubs at Richards and Sweetwater Middle School

You can always browse the GARzette archive at <http://www.gars.org/newsletters> and go directly to the 2002 GARzette by clicking on the image. 73, Bob, K4CQO, GARzette Editor



Health and Wellbeing – Sandy Jackson, KJ4DRO

Look for this resource on [Email \(https://gars.org/contact/\)](https://gars.org/contact/) and use it as a means to convey information about a GARS family member or Silent Key notification.

Net Managers Corner

Monday Night 2 Meter “Want, Swap, Sell, and Information Net”

GARS NEEDS MEMBERS TO SERVE AS NET CONTROL STATIONS!

GARS is a great Amateur Radio service club with the membership and awards to prove it. Our club is very busy and active, and we use the Monday night net to get timely information out to our members. Weekly participation is needed to make our net function well. There is only a small group of very dedicated people who make the net happen each week, and we need more members to volunteer to serve as Net Control Stations (NCS) on a rotating basis.

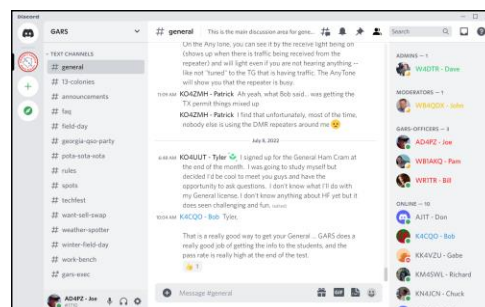
Out of almost 300 members, there are only seven operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

Don – KW4AL	Ray – N4GYN	Bill – WG9NUW	David – KA4KKF
Glen – W3WWT	Russell – AB4QQ	Chuck – KK4TKJ	Charlie – WS4TOT

As GARS Net Manager (Chuck KK4TKJ), I would like to have more volunteers to fill NCS positions. I do plan and post the schedule months in advance. Any conditions will be accommodated that you as a rotating NCS need to place on the scheduling of your duties. If your plans change, I can make adjustments for the schedule to work, and I will make those changes happen as soon as I am notified of a problem. As Net Manager, I also send out reminders each week to let the NCS scheduled know he or she is NCS for the next Monday night net. In short, serving as a rotating NCS is a small duty but a great contribution to the club. The “Want, Swap, Sell Information Net” begins promptly at 19:30 every Monday night and runs about 30 minutes. As a scheduled NCS, you will request the assistance of a volunteer alternate NCS each time you have Net Control. Your simple duties will be to tune in to the GARS repeater, read the script, take a few notes and forward the information to me for record keeping.

Please lend a hand and contact (Chuck) via [Email \(https://gars.org/contact/\)](https://gars.org/contact/) to help support the effort that makes GARS the great club that it is. See you on the Nets!

Don't forget about our Discord utility for GARS announcements, news, activity spotting and more. See <http://www.gars.org> top of the home page. This is a sample of Discord. →



GARS VE Testing for 2022

GARS VE-Team 2022 Year-End Summary

This year, we examined 127 applicants at our 12 monthly exam sessions, 3 ham cram exam sessions, and one McConnell Middle School exam session. It would have been more had we had our annual TechFest exam session too. And, let's not forget that we helped the AMRC VE-Team to examine another 36 applicants at the Stone Mountain Hamfest. In total, that's 163 applicants! Every VE on the Team deserves a "pat on the back" for a JOB WELL DONE!!!

These results clearly indicate that our exam session applicant counts have recovered to pre COVID-19 levels. In fact, if we had a TechFest exam session in 2022, I feel our applicant counts would have rivaled our all time high applicant counts.

I want to thank every Volunteer Examiner on the GARS VE-Team for volunteering their time throughout the year as Volunteer Examiners. I know all of our applicants greatly appreciate it, as do I.

73 - Dave, W4DTR
GARS VE-Team Leader
<https://gars.org/exams/>

Upcoming Georgia HamCrams

- 2-Day Technician Ham Cram Saturday, March 25th, and Sunday, March 26th, 8am to 4pm each day
- 2-Day General Ham Cram Saturday, April 29th, and Sunday, April 30th, 8am to 4pm each day

Register for each class on <https://GARS.org/>

Upcoming WinterHeat 2023

WINTERHEAT 2023



WINTERHEAT is a month-long amateur radio simplex event, January 2023. The goal and purpose is for amateur radio operators to make as many contacts as possible over a month long period of time using only designated simplex frequencies.

In an effort to create an avenue for communication among hams here in Georgia during the event a Discord app has been employed. Join us at <https://discord.gg/v6X8ZTFd> Any Questions? Feel free to email n3ack@atlantaradioclub.org.

Upcoming Georgia Statewide POTA

Mark the Date! On the weekend of **April 1-2, 2023**, there will be state-wide POTA activations of **all 50 Georgia State Parks!**



The idea is to enlist enough hams from all over to fan out across the state and activate 50 parks over the course of that one weekend.

We will have a website where details, signups, etc., will be posted. In the meantime, keep an eye on the event description and comments on the "Georgia Ham Radio Portable" Facebook page:

[Georgia State Parks on the Air.](#)

Upcoming TechFest on Jan 14th

Whether you have been licensed for 50+ years, newly licensed, or thinking about getting licensed, you are cordially invited to attend our upcoming TechFest.

For more details about our upcoming TechFest, check out the following links:

- [Forums](#)
- [Exhibitors](#)
- [Raffle Prizes](#)
- [Door Prizes](#)
- [Free Stuff](#)
- [Chili Cook-off Contest](#)



GARS is providing this while keeping the cost FREE to all our attendees and exhibitors. We are even offering Exams for FREE. There will also be:

<ul style="list-style-type: none"> • free coffee all day • free lunch <ul style="list-style-type: none"> ○ hot dogs ○ chili • General Admission 	<ul style="list-style-type: none"> • Tons of Exhibits • Excellent Forums • Ham Radio Swag (free promotional items) • Door Prizes
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Raffle tickets are \$5 each, or 5 tickets for \$20. Tickets will be available for sale at TechFest. Get your raffle tickets at the TechFest front desk or order your [tickets here](#).

<p>When:</p> <p>Saturday, January 14, 2023 Exhibitors: Set up 7:30am – 9:00am Public: 9:00am – 3:00pm Ham Exams: 9:00am – 11:00am Final Prize Drawing: 3:00pm</p>	<p>Where:</p> <p>Gwinnett County Fairgrounds Expo Center Building 2405 Sugarloaf Pkwy Lawrenceville, GA 30045</p>
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Exhibitors

<ul style="list-style-type: none"> • ARRL • Clubs – Alford Memorial RC • Clubs – CWops Operators Club • Clubs – North Fulton Amateur Radio League – kit building • Clubs – North Georgia GMRS Network • Clubs – SE DX Club – DX'ing 101 • Gwinnett ARES • Auxcom • AREDN Networks • DMR 	<ul style="list-style-type: none"> • D-STAR • Fox Hunting / Direction Finding • Geocaching • Gwinnett Geekspace • Ham Pi/HamPC • Heavy Metal – Restored Teletype • Remotehams.com • Schools – McConnell Middle – Emergency Power (Solar) • Schools – Mini Rail Road Communications • Schools – Paul Duke Stem School • SOTA
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Forums

Time	Big Forum Room	Small Forum Room
9:00am	Combined ARRL and ARES, – Plans for 2023 David Benoist AG4ZR, Lee Stone KT4LS	VE Testing
10:00am	Locating Power Line and other RF Noise Jeff Stuparits W4DD	
11:00am	1.5 hours with 30 minutes of Q&A	
12:00pm	Around the World – Amateur Radio Ballooning Audrey McElroy, KM4BUN and Jack McElroy, KM4ZIA	Georgia AUXCOMM John Davis WB4QDX
1:00pm	HamPi / HamPC Dave Slotter, W3DJS	Remote Operation of Amateur Radio Ray Bailey N4GYN
2:00pm	Basic HF Wire Antennas for HOA-restricted neighborhoods Kevin Scott, K4GTR	History, Explanation, and Getting Started in POTA Claude Ray, AC4SH

Raffle and Door Prize Items

The Raffle Prize drawing will be held at 3:00pm at the GARS table, immediately after all the Door Prizes have been given away. Raffle Prize tickets are separate from Door Prize tickets. Raffle Prize tickets must be purchased. The Raffle Prize will only be drawn from the Raffle Prize tickets. Door Prizes will only be drawn from the FREE Door Prize tickets, so be sure to get your FREE Door Prize ticket when you enter the TechFest venue.

Raffle tickets are \$5 each, or 5 tickets for \$20.
Tickets will be available for sale at TechFest.
Get your raffle tickets at the front desk.

TechFest Raffle		
ICOM IC-7300 – GRAND PRIZE	<u>ICOM IC-7300</u>	
PARADANradio Power Strip 4 Plus	<u>Power Strip</u>	
Buddy Pole DELUXE System Package	<u>Buddy Pole Package</u>	
ASUS BR1100 laptop	<u>LAPTOP</u>	
ASUS BR1100 laptop		
Yaesu VX-3R HT	<u>Yaesu VX-3R HT</u>	
10 Meter Radio Shack HTX-10	<u>HTX-10</u>	
Yaesu FT-65 Dual Band HT	<u>Yaesu FT-65 HT</u>	

*** You MUST be present to win a Door Prize. Unclaimed Door Prizes will be redrawn at 2:30pm until a winner is found. ***

Door Prize Drawings start at 10:00am and continue every hour at the top of the hour until our final Door Prize Drawing at 3:00pm when we will give away our Grand Door Prize listed below. All attendees of TechFest should receive one FREE Door Prize Ticket upon entering TechFest (not to be confused with the Raffle Prize tickets that are available for purchase). FREE Door Prize Tickets will be drawn to win all the Door Prizes listed below.

The Vintage 811 and 811A Triode - Part 3

Vintage Amateur Radio

de Bill Shadid, W9MXQ



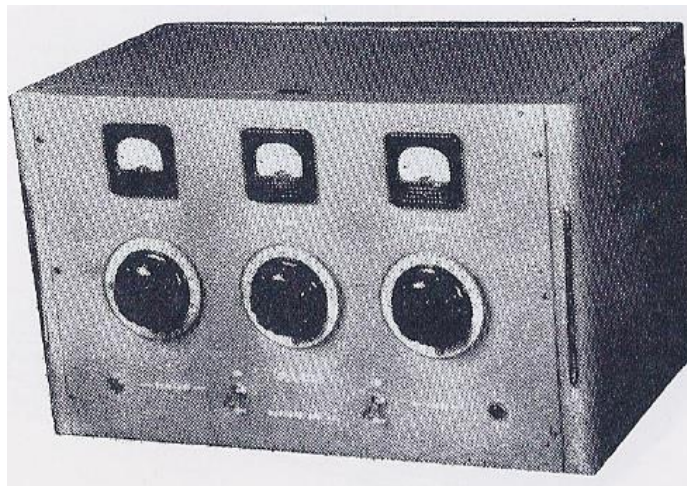
This article finishes the presentation of popular, and not so popular, 811 and 811A Triode Amplifiers. For this last installment it would be my opinion that the amplifiers included were not very popular in their day and are almost completely unknown today.

We have four products to discuss in this third group. They come from three manufacturers. In addition, I will briefly mention two other amateur radio products that used the 811 series tubes but not as Power Amplifiers.

We will see both 811 and 811A tubes used in products in this article. For reference, advertised plate dissipation of the 811A is 65 watts and the 811 is 50 watts.

The oldest of the Power Amplifiers in this group is from a company named Elenco, short for Electronic Engineering Company, of Wabash, Indiana. Elenco was an early player in the up and coming Single Sideband mode that grew rapidly in the 1950's. As far as I can tell, the Electronic Engineering Company (Elenco) talked about in this article is not related to the Elenco of today that sells electronic educational and test equipment.

While Elenco made numerous products in the mid-1950's, within that product line they made one linear amplifier that utilized 811A triodes. This was the Elenco PA-400.



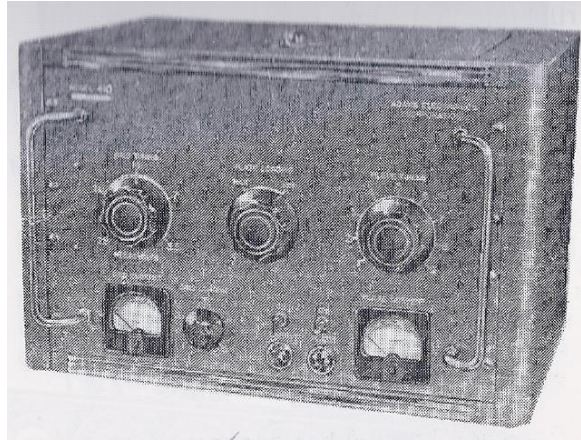
Elenco PA-400 Linear Amplifier

Moore¹

The model PA-400, made in 1953 and 1954, utilized its two 811A tubes to produce an input power of 400 watts – as noted in its model number. The amplifier operated the two amplifier tubes in a push-pull circuit that required a very low drive at less than 8 watts. It utilized a swinging link tank circuit – as did several other transmitters of that day and even more so going back in time from the 1950's. It is regrettable that so little remains as to design details. Research did not come up with a tube complement other than the two 811A's. It must be assumed, knowing that the plate voltage was 1,400 Volts, that rectifier tubes were part of the package. That is to say that in 1953 suitable solid-state devices for

rectifying that voltage did not exist – at least not any priced for amateur radio use. This radio's information does not include band coverage but excitors from Elenco at the same time focused on 80 meters only. It is safe to say that there is at least a good chance that was the coverage of the PA-400 as well.

Just a bit later than the Elenco PA-400 came two offerings from Adams Electronics Corporation of Amityville, Long Island, NY. Like Elenco, Adams supported the new single sideband market. Unlike Elenco that made transmitters and linear amplifiers, Adams only manufactured linear amplifiers. They were not long on the market but in their time, they made two 811A linear amplifiers and one using a single 4-400A. For Adams we will talk about a rather different approach. They made two different Amplifiers – but they looked the same – as you can see here . . .



Adams AEC 410 and AEC 420 Linear Amplifier

Moore¹

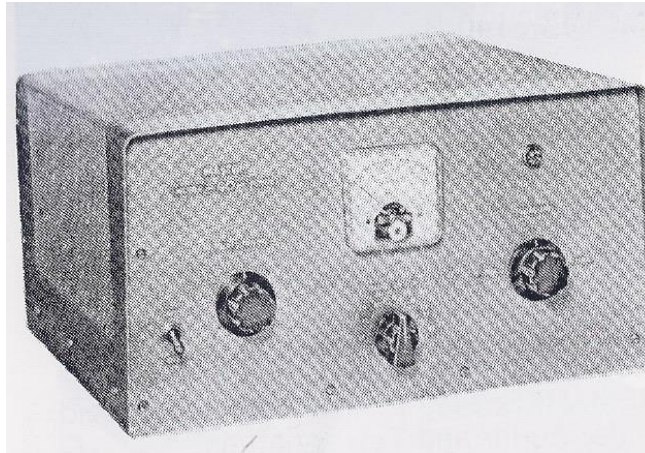
The earlier of these two amplifiers, the AEC 410, had an 80-10-meter band switched input circuit but used plug in tank circuit coils. The later AEC 420 was almost identical, from what information is available, but used a band switched input and output tank circuit. No historical documents show them physically different (or the same, for that matter). Both the AEC 410 and AEC 420 used a pair of 811A tubes in the final amplifier. Again, as noted with the Elenco PA-400, there is no surviving information that was found to show how the power supply is designed except that it was rated higher than necessary, at 1600 volts and 325 mA, for running an input power of 400 watts. These amplifiers required three to ten watts of drive power to get 400 watts PEP input on single sideband.

It should be mentioned that the plug-in coil final amplifier tank circuit in the AEC 410 was a swinging link design while the band switched tank circuit in the AEC 420 was of the now more common pi-network design.

Another entry into this market was a linear amplifier designed primarily for mobile operation from a 12-volt automotive battery and electrical system. Back in the 1950's and 1960's most hams were familiar with a brand called, Master Mobile. That was the trade name for Master Mobile Mounts, Inc., of Los Angeles, CA. Their main product line included a wide variety of mobile mounts for putting high frequency antennas on automobiles. They offered bumper and body mounting options. I used a Master Mobile Bumper Mount for a Newtronics antenna system on my 1962 Mercury that I was driving when I got my ham license in 1964.

In 1963, Master Mobile offered their own 811A Linear Amplifier in their model K-73. The K-73 covered the 80-10-meter bands. Pushing two 811A's to very limit, and perhaps a bit beyond, was the 750-watt PEP input power level of the amplifier. Specifications would indicate to me that is over driving the 811A's, but I do not have details like plate voltage, etc., so it is difficult to figure out Master Mobile's

thinking and design. The power supply appears to have been solid state with a relatively high frequency AC conversion scheme from what I have learned – and that seems appropriate given the voltage and power – far more than a typical dynamotor could provide.



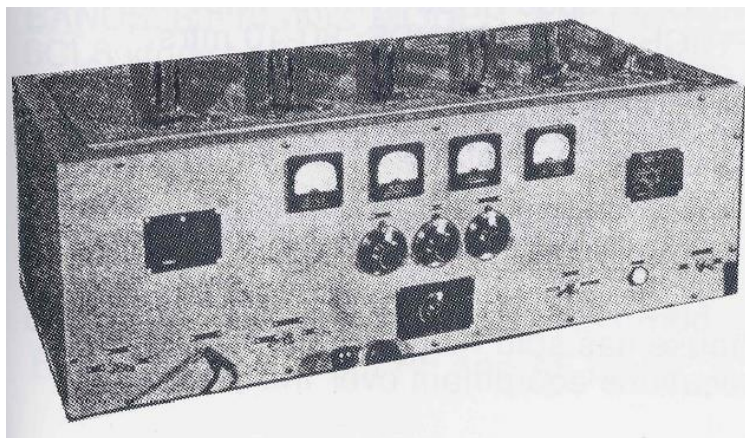
Master Mobile K-73 Linear Amplifier

Moore¹

The amplifiers in this article, except for the Master Mobile K-73, would have been produced with no switching for an exciter. That interconnection design between exciter and amplifier would have been the responsibility of the user to design. The factory may have included some thoughts on such a design, but I can say that amplifiers from the 1950's, with a few exceptions, were devoid of any such information. Using any of these Linear Amplifiers with a modern exciter would be problematic due to low voltage and current switching capability of today's radios.

Finally, we need to cover what I will call "Honorable Mention" 811 / 811A radios. There were two radios that both used two 811A tubes but not in the power amplifier. I am only showing them because they show another good application of this tube design – a high power audio amplifier to be used in the modulator section of plate modulated AM transmitters.

The first of these is the oldest in this 811 / 811A series. And, this one predates the 811A tube and used the original 811 version. This is the Meissner 150-B Amplifier/Modulator.



Meissner 150-B Amplifier/Modulator

Almost a stand-alone power amplifier – but really an accessory

Moore¹



This radio was a plate modulated AM and CW transmitter with an 813 final amplifier that was plate modulated with a pair of 811 triodes. This was an accessory for use with the Meissner Variation 2 Signal Shifter Transmitter from 1943 and through World War II. They were meant to form a higher power transmitter when coupled to the Signal Shifter. For reference, the picture below is the Variation 2 Signal Shifter as used with the 150-B:



This picture is typical of the Variation 2 product under models 9-1077, 9-1078, and 9-1080. These dated from 1943 and through World War II. This little Transmitter/Exciter produced 7.5 watts output using ham band and general coverage (HF) RF coils. It was intended to run alone or with the 150-B Amplifier that had a complete audio circuit and modulator. Although low in power, the Signal Shifter could operate barefoot.

The Meissner 150-B Amplifier/Modulator units survived WWII and were sold in the ham radio market as surplus radios. They would be very, very rare and maybe completely unavailable today. The Signal Shifter in its three Variations is hard to find, but available with patience even to this day. Two friends of mine, W9DYQ and W9JI, own and use a Signal Shifter in its final variation³. My own Signal Shifter is the same model as the one owned by my two friends.

Meissner was a company founded sometime before WWII in Mount Carmel, IL, located about 275 miles south of Chicago in southeastern Illinois. In later years Meissner became part of Thordarson Transformer and thereafter known as Thordarson-Meissner. Thordarson-Meissner exists today with an extensive line of transformers and other products under the Thordarson Magnetics name (and a subsidiary of Thordarson-Meissner).

The second of these two “Honorable Mention” radios is probably the only one in this article that is widely known. In the time span of 1956 to 1963, the E. F. Johnson Company of Waseca, Minnesota produced a high power (500-watt) transmitter known as the Viking Five Hundred (or, simply “500”). It used a 4-400 tetrode final amplifier that was plate modulated by a pair of 811A Triodes.



The Johnson Viking 500 was a massive, 173-pound radio in two cabinets. The desktop unit held all the RF components and control circuitry while the second unit (intended to sit on the floor) contained the power supply and modulator components. This unit provided 500 watts input of plate modulated AM Phone and 600 watts input on CW.

EF Johnson 1961 Catalog

E. F. Johnson is one of the oldest names in ham radio – and at the same time one of the oldest names in radio itself. Now a part of JVC/Kenwood, Johnson still markets a large line of two-way commercial radio equipment under the Kenwood Viking™ trade name.

You have seen three articles now on 811 and 811A amplifiers. Did I miss any that you know about? There were several in the CB Band market that hold no interest for me – but if you know of amplifiers intended for the amateur market, let me know about them and what you know about them.

I appreciate that you read my articles. Remember that I am open to questions and comments anytime at my email address, W9MXQ@TWC.com.

A special note of thanks to my proofreader, Bob Bailey, W9DYQ. Bob is a bit more than a proofreader as he often adds commentary that makes it into the article.

Credits and Comments:

¹ Moore is Raymond S. Moore, author of numerous books on Vintage Receivers and a single book on Vintage Transmitters. I used pictures from Moore's book, *Transmitters Exciters and Amplifiers – 1930-1980*. RSM Communications, Key Largo, FL USA. ©1996 ISBN 0-9618882-3-7. Moore's books are out of print and generally unavailable except perhaps at a used bookstore or at a hamfest. Moore also wrote a variety of books on home education, children's books, religious books, and other subjects. I cannot determine Mr. Moore's current status.

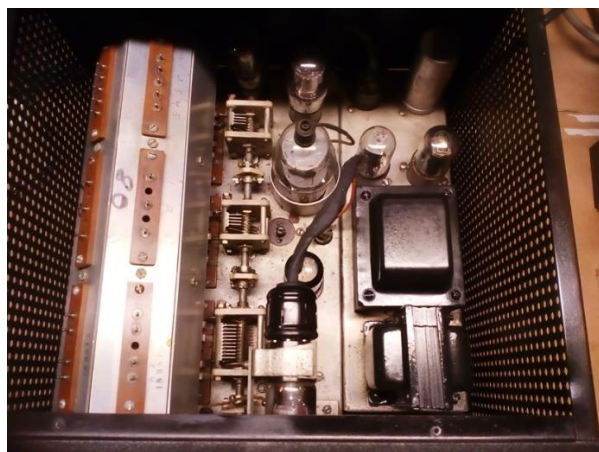
² All the amplifiers in this article required high current at high voltages to switch between transmit and receive. That was no problem for transmitters and transceivers of that same era. Modern exciters, however, can only accommodate low voltages at very low current.

³ Friends and fellow collectors, Bob, W9DYQ, and Pat, W9JI, own and use Meissner Signal Shifters in their final variation – the model EX. My own Signal Shifter is also a model EX. The Signal Shifter in its several Variations may be the topic of a future article by W9DYQ or W9JI or W9MXQ – or a collaboration of all three.



Meissner Signal Shifter EX – Front

W9DYQ



Meissner Signal Shifter EX – Interior

W9JI

©W9MXQ



GARS Membership

New Members List in December

Peggy Edwards (KQ4EDI)
Marty Edwards
Tom Forkner (KQ4EWO)
Vera Forkner
Steven Francis (KQ4DSI)

New Members: 5

**Total Members as of
January 1, 2023
359**

Join GARS members for our weekly
breakfast gathering at
7:30 AM most Saturdays
Now at
Cracker Barrel Restaurant
75 Celebration Dr.
Suwanee, GA 30024

Birthdays in January

Diane Andrus (KB4LWS)
Scott Bosier (KN4BJJ)
Donald Brant (N2VGU)
Jolie Brown (KO4AHI)
Terry Cantrell (W4WTC)
Eliud Carmona
Rick Cobb (N4XYY)
Hal Collier (W4IGE)
Randy Collins (N4COR)
John Craig (KK4JXU)
Mark Fenley (KM4DJO)
Steve Jassen (KN4SVT)
Chuck Johnston (KN4JCN)
Ruth Jones (K4RHJ)
Denice Kludt
Wes Lindsey (W4CWL)
Kevin McClure (KF4HFN)
James Otey (KB4AHI)
Yolanda Pence (KM4AAQ)
Antonio Perry (KN4AXM)
Grant Porter (KG4SDR)
Mark Prichard (KN2TOD)
Darlene Rogers (N8ILW)
Alex Sexton (KO4KVL)
Traci Thomas
Newt White (N4EWT)
Ruth Willet (KM4LAO)

GARS MEMBERSHIP

Your current GARS membership status is shown in the monthly newsletter e-mail towards the bottom of the message. To become a GARS member, or to renew your GARS membership, please visit our website – <http://www.gars.org>. To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please contact the Membership Chair at Email (<https://gars.org/contact/>) with any changes to your Membership information.

Membership Chair: Karen Albritton, KI4HPP

Committee Members: Dave Bruse, W4DTR

ARRL MEMBERSHIP

To update your ARRL membership information, please visit their website - <http://www.arrl.org>.

MAINTAIN YOUR LICENSE

You can update your Amateur Radio license information with the FCC at their website for free - <https://www.fcc.gov/wireless/universal-licensing-system>. License renewal is subject to the \$35 FCC fee.



Donating to GARS

Your GARS donation can be used for a certain purpose by donating to one of these funds:

- GARS SK Memorial Fund for Education
- (to remember and honor Silent Keys);
- GARS Scholarship Fund (Administered by the ARRL for awarding scholarships);
- GARS General Fund (any club purpose).

GARS has joined these rewards programs (a portion of every purchase you make through these merchants may be donated to GARS):

- Amazon Smiles;
- Kroger Community Rewards program.

For more information on how to sign up for these rewards programs, or to donate to GARS, visit

<http://gars.org/gars/donations-to-the-club>

GARS on Social Media



Discord Request:

<http://gars.org/discord>



Groups.io:

<http://gars.org/groups.io>



Visit GARS on Facebook:

<http://gars.org/facebook>



Follow GARS on Twitter:

<http://gars.org/twitter>



Join GARS on YouTube:

<http://gars.org/youtube>

GARS Mail Address:

GARS
P.O. Box 492531
Lawrenceville, GA 30049

Officers



Joe Biddle, President AD4PZ



Jamie Burns, Vice President KX4HA



Bill Hawkins, Secretary WR1TR



Pam Meridy, Treasurer WB1AKQ



Kevin Scott, Program Manager K4GTR

Managers and Committee Chairs



Karen Albritton, Membership Chair KI4HPP



Dave Bruse, VE Team Leader W4DTR



David Adcock, Webmaster, Field Day Chair, TechFest Chair KA4KKF



Ralph Pickwick, Education Chair KJ4CNC



Earl Whatley, Apparel Manager AF4FG



Bob Hoffmann, GARzette Editor K4CQO



Eddie Foust, Repeater Chair WD4JEM



Mike Weathers, WAS / DXCC QSL Card Checker and Historian ND4V



Chuck McCord, Net Manager KK4TKJ



Steve Back, Technical / RFI Advisor WB2OGY



Dallas Mellichamp, Workshop Leader N4DDM



Don Stewart, Elmer Manager KW4AL



Sandy Jackson, Health and Wellbeing KJ4DRO

Open Winter Field Day Chair
 Open Georgia QSO Chair
 Open Multimedia Chair

Directors and Trustees



John Davis, WB4QDX



Rick Cobb, N4XYY



Kyle Albritton, W4KDA



Bill Cherepy, WB4WTN W4GR Trustee



Events – GARS and others

ARRL CONTESTING INFO

From ARRL Contest Calendar

> For more information click the links <

2023	January
1	Straight Key Night
7	Kid's Day
7-8	RTTY Roundup
21-23	January VHF Contest
	February
13-17	School Club Roundup
18-19	International DX – CW
	March
4-5	DX Contest -- SSB
	April
16	Rookie Roundup – Phone
	May
	No planned contests
	June
3-4	International Digital Contest
10-12	June VHF
17	Kid's Day
24-25	Field Day
	July
8-9	IARU HF World Championship
	August
5-6	222 MHz and Up Dis Contest
19-20	10 GHz & Up – Round 1
20	Rookie Roundup – RTTY
	EME - 2.3 GHz & Up
	September
9-11	September VHF
16-17	EME - 2.3 GHz & Up – Rnd 2
9-10	10 GHz & Up – Wknd 1
	October
29-29	EME - 50 to 1296 MHz
16-20	School Club Roundup
	EME - 50 to 1296 MHz
	November
4-6	Nov. Sweepstakes - CW
25-26	EME - 50 to 1296 MHz
18-20	Nov. Sweepstakes - Phone
	December
1-3	160 Meter
9-10	10 Meter
17	Rookie Roundup–CW

For more information:

<http://www.arrl.org/contest-calendar>

HAMFEST CALENDAR

[Please confirm the status of a Hamfest before making plans to attend]

01/07/2023 - BCARC Annual Freezefest

Location: Locust Fork, AL

Type: ARRL Hamfest

Sponsor: Blount County Amateur Radio Club

Website: <http://w4blt.org>

01/14/2023 - Don't Freeze Your Ham Off

Location: Defuniak Springs, FL

Type: ARRL Hamfest

Sponsor: Walton County Amateur Club

01/14/2023 - K4KDI Winter Tailgate 2023

Location: Orlando, FL

Type: ARRL Hamfest

Sponsor: Conway Baptist Church

Website: <http://k4kdi.square.site>

01/14/2023 - TarcFest

Location: Tampa, FL

Type: ARRL Hamfest

Sponsor: Tampa Amateur Radio Club

Website: www.hamclub.org

01/14/2023 - TechFest

Location: Lawrenceville, GA

Type: ARRL Hamfest

Sponsor: Gwinnett Amateur Radio Society

Website: <http://www.techfest.info/>

01/20/2023 - 01/21/2023 SW Florida Region Hamfest, ARRL So. Florida Sect.

Location: Fort Myers, FL

Type: ARRL Convention

Sponsor: Fort Myers Amateur Radio Club, Inc.

Website: <https://swflhamfest.info>

01/28/2023 - DeSoto County Hamfest

Location: Arcadia, FL

Type: ARRL Hamfest

Sponsor: DeSoto Amateur Radio Club, Inc.

Website: <http://desotoarc.org>

02/10/2023 - 02/12/2023 Orlando HamCation, ARRL SW Division Convention

Location: Orlando, FL

Type: ARRL Convention

Sponsor: Orlando Amateur Radio Club

Website: <http://www.hamcation.com>

02/18/2023 - Highlands County Amateur Radio Club Hamfest

Location: Sebring, FL

Type: ARRL Hamfest

Sponsor: Highlands County Amateur Radio Club

02/18/2023 - The Hernando County Amateur Radio Association Hamfest

Location: Brooksville, FL

Type: ARRL Hamfest

Sponsor: The Hernando County Amateur Radio Association

Website: <http://www.hcara.org>

For more information: <http://www.arrl.org/hamfests-and-conventions-calendar>

When searching by division, remember some states adjacent to GA are in different divisions:

Southeastern: GA, AL, FL Delta: TN Roanoke: NC, SC



GARS Events Calendar for 2023		GARS Recurring Calendar
TechFest Winter Field Day Spring Technician HamCram Dog Show Fundraiser Georgia QSO Party North metro area Fox Hunt Summer General HamCram Memorial Day Parade ARC/KARC Hamfest Field Day JOTA Fall Technician HamCram Maker Faire Stone Mt. Hamfest Holiday Party	January 14 2023 January 28-29 2023 March 25-26 2023 March 29-April 2 2023 April 8-9 2023 April 2023 April 29-30 2023 May 29 2023 June 3 2023 June 24-25 2023 October 2023 October 2023 TBD November 4-5 2023 December 2 2023	<ul style="list-style-type: none"> 2nd Tuesday of the month at 7 pm (except December) Monthly Club Meeting 690 Airport Rd, Lawrenceville, GA 30046 3rd Tuesday of the month at 7 pm (except December) Monthly Workshop 690 Airport Rd, Lawrenceville, GA 30046 2nd Sunday of the Month at 2 pm GARS Ham Exam Session 690 Airport Rd Lawrenceville, GA 30046 Every Monday at 7:30 pm: GARS Want, Swap, Sell, and Information Net on the GARS 147.075 MHz repeater Every Monday at 8:30 pm: ARES Training on the GARS 147.075 MHz repeater Most Saturdays at 7:30 am GARS Weekly Breakfast Cracker Barrel Restaurant 75 Celebration Dr., Suwanee, GA 30024

GARS CALENDAR FOR January 2023

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 7:30 – 8:00 PM GARS 2M Net	3 7:00 PM GARS Exec Meeting EAA 690 Hangar	4	5	6	7 7:30 AM Breakfast at Cracker Barrel in Suwanee
8 2:00 PM GARS VE Exam Session EAA 690 Hangar	9 7:30 – 8:00 PM GARS 2M Net	10 7:00 PM GARS Meeting EAA 690 Hangar	11	12	13	14 7:30 AM Breakfast at Cracker Barrel in Suwanee TechFest at Gwinnett Fairgrounds
15	16 7:30 – 8:00 PM GARS 2M Net	17 7:00 PM GARS Workshop Meeting	18	19	20	21 7:30 AM Breakfast at Cracker Barrel in Suwanee
22	23 7:30 – 8:00 PM GARS 2M Net	24	25	26	27	28 7:30 AM Breakfast at Cracker Barrel in Suwanee
29	30 7:30 – 8:00 PM GARS 2M Net	31				

Local Ham Radio Exams & Meetings

GARS Ham Radio Exams

Second Sunday of the month

Doors open at 1:45pm, exams start promptly by 2:00pm

GARS VE-Team

VEC: W5YI-VEC

EAA 690 Hangar

690 Airport Rd

Lawrenceville, GA 30046

GARS VE Team Leaders

E-mail: exams@gars.org.

December 2022 Results

We had a great exam session today.

2 new Technician

Special thanks to the Volunteer Examiners who made this exam session possible:

W4DTR - Dave (CVE)

WB4WTN - Bill

AF4FG - Earl

KJ4CNC - Ralph

KX4HA - Jamie

KM4SWL - Richard

NV4Q - Bill

Thanks & 73,

Dave Bruse, W4DTR (CVE)

GARS VE Team Leader

Email: exams@gars.org

Local Ham Radio Exams

In order to find an exam session near you, please visit

http://www.arrl.org/exam_sessions/. Contact the information in the listing for further information.



Local Ham Radio Meetings

In order to find a local Ham Radio Club meeting near you, please visit

<http://www.arrl.org/find-a-club>. Contact the club for meeting information.





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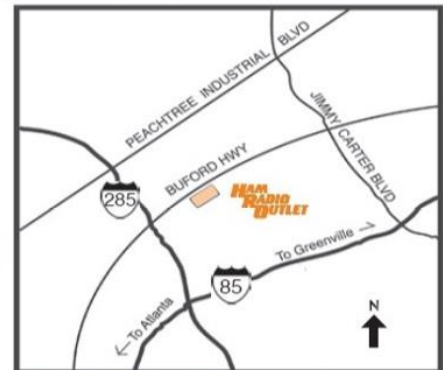
If your closest 800 number is busy, please call one of our other numbers.

Phone Hours: 9:30 am to 5:30 pm Monday – Saturday

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1 mile north of I-285

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24 Hour FAX (770) 263-9548

Email: atlanta@hamradio.com

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The **GARzette**



FREE ADMISSION



TechFest

Gwinnett Amateur Radio Society

TECH FEST 2023

★ ★ ★ **25TH ANNIVERSARY** ★ ★ ★

SATURDAY, JANUARY 14, 2023

EXHIBITORS: SET UP 7:30AM – 9:00AM

PUBLIC: 9:00AM – 3:00PM

FREE HAM EXAMS: 9:00AM – 11:00AM

FINAL PRIZE DRAWING: 3:00PM

FORUMS - EXHIBITORS

RAFFLE PRIZES - DOOR PRIZES

FREE LUNCH - FREE COFFEE

CHILI COOK-OFF - & MORE!



WWW.TECHFEST.INFO

GWINNETT COUNTY FAIRGROUNDS

EXPO CENTER BUILDING

2405 SUGARLOAF PKWY

LAWRENCEVILLE, GA 30045